

Notice of Allowability

Application No.

10/696,852

Applicant(s)

ERKOCEVIC, NEDIM

Examiner

Leith A. Al-Nazer

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to request for reconsideration filed on 06 December 2005.
2. ☒ The allowed claim(s) is/are 1-4, 6-15, 17-28, and 30-38.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


TAN HO
PRIMARY EXAMINER

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with J. Joel Justiss on 28 December 2005.

2. Amend claims 1, 4, 5, 12, 15, 16, 25, 28, and 29 as follows:

1. A dual-band antenna, comprising:
a substrate;
an inverted F antenna printed circuit supported by said substrate and tuned to resonate in a first frequency band, said inverted F antenna having a ground plane; and
a monopole antenna printed circuit supported by said substrate and located on a different plane than said ground plane, [[having a single ground path including a portion of said inverted F antenna printed circuit and]] said monopole antenna printed circuit tuned to resonate in a second frequency band and indirectly connected to said ground plane via said inverted F antenna.

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4. The antenna as recited in Claim 1 wherein said ~~[[a]]~~ ground plane ~~[[of said inverted F antenna printed circuit]]~~ is coupled to and spaced apart from both a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

5. CANCEL

12. A wireless networking card, comprising:

wireless networking circuitry;

a dual-band transceiver coupled to said wireless networking circuitry; and

a dual-band antenna coupled to said dual-band transceiver and including:

a substrate

an inverted F antenna printed circuit supported by said substrate and tuned to resonate in a first frequency band, said inverted F antenna having a ground plane, and

a monopole antenna printed circuit supported by said substrate and located on a different plane than said ground plane, ~~[[having a single ground path including a portion of said inverted F antenna printed circuit and]]~~ said monopole antenna printed circuit tuned to resonate in a second frequency band and indirectly connected to said ground plane via said inverted F antenna.

15. The wireless networking card as recited in Claim 12 wherein said ~~[[a]]~~ ground plane ~~[[of said inverted F antenna printed circuit]]~~ is coupled to and spaced apart

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from both a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

16. CANCEL

25. A method of manufacturing a dual-band antenna, comprising:

forming an inverted F antenna printed circuit on a substrate, said inverted F antenna printed circuit having a ground plane and tuned to resonate in a first frequency band; and

forming a monopole antenna printed circuit on said substrate and on a different plane than said ground plane, [[having a single ground path including a portion of said inverted F antenna printed circuit and]] said monopole antenna printed circuit tuned to resonate in a second frequency band and connected indirectly to said ground plane via said inverted F antenna.

28. The method as recited in Claim 25 wherein said [[a]] ground plane [[of said inverted F antenna printed circuit]] is coupled to and spaced apart from both a radiator of said inverted F antenna printed circuit and said monopole antenna printed circuit.

29. CANCEL

Allowable Subject Matter

3. Claims 1-4, 6-15, 17-28, and 30-38 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to teach or suggest one or more of the limitations found in independent claims 1, 12, 25, and 36-38. U.S. Patent No. 6,515,629 to Kuo et al. and U.S. Patent No. 6,611,235 to Barna et al. both teach prior art antenna systems. However, with respect to independent claims 1, 12, and 25, Kuo and Barna, as well as the other prior art of record, fail to teach or suggest the combination of an inverted F antenna printed circuit supported by a substrate, the inverted F antenna printed circuit having a ground plane; and a monopole antenna printed circuit supported by the substrate and located on a different plane than the ground plane, the monopole antenna printed circuit indirectly connected to the ground plane via the inverted F antenna. With respect to independent claims 36 and 37, the prior art of record fails to teach or suggest the combination of an inverted F antenna printed circuit supported by the substrate and tuned to resonate in a first frequency band; a feed line located on a different plane of the substrate from a radiator of the inverted F antenna printed circuit; and a monopole antenna printed circuit supported by the substrate and tuned to resonate in a second frequency band. With respect to independent claim 38, the prior art of record fails to teach or suggest the combination of an inverted F antenna printed circuit supported by the substrate and tuned to resonate in a first frequency band; and a monopole antenna printed circuit supported by the substrate and tuned to resonate in a second frequency

band, the monopole antenna printed circuit including a first trace directly coupled to a second trace and each trace tuned to differing resonance in the second frequency band.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A. Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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